



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,486	06/29/2001	SUNETRA K. MENDIS	VISA-54	9201
28112	7590	12/22/2003	EXAMINER	
GEORGE O. SAILE & ASSOCIATES			PYO, KEVIN K	
28 DAVIS AVENUE			ART UNIT	
POUGHKEEPSIE, NY 12603			PAPER NUMBER	

2878

DATE MAILED: 12/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/896,486	MENDIS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kevin Pyo	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 1-22 and 24-29 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

***Election/Restrictions***

1. Applicant's election with traverse of claim 23 in the response filed on 9/15/2003 is acknowledged. The Examiner has considered applicant's arguments regarding applicant's election with traverse of claim 23 in the response.

In response to applicant's argument that the fields of search for Groups I-V are clearly and necessarily co-extensive, it was not found persuasive since the fact that the search for the two inventions overlaps does not necessarily eliminate a serious burden in examining two different inventions.

Applicant further argues that "the process claims are directed to a method of verifying operation of a group of at least one active pixel sensor within an array, and that the apparatus claims are directed to an apparatus for testing functionality, evaluating performance and measuring capacitance of a photo-conversion device of at least one active pixel sensor of an array, and it is necessary to obtain claims in both the process and apparatus claim language". The Examiner disagrees with this argument. The apparatus of claimed invention I comprising a test voltage selection circuit and a timing control circuit is used to practice for testing functionality of an active pixel sensor (as shown by Invention II), and can be used to practice another and materially different process such as determining the capacitance of a photo-conversion device of an active pixel sensor or evaluating the performance of an active pixel sensor (as shown by Inventions III-V). Each of the inventions II-V recites limitations not cited in the other invention. The recited steps for determining the capacitance of a photo-conversion device of an active pixel sensor are different from those for testing functionality of an active pixel sensor, for example. The differing limitations make the inventions patentably distinct from

Art Unit: 2878

one another, i.e. a reference that anticipates or makes obvious one of the inventions would not by itself anticipate or make obvious the other invention.

The requirement is still deemed proper and is therefore made FINAL.

2. The Examiner inadvertently stated that only claim 26 is included for Group V. However, it should be noted that dependent claims 27-29 should also be included in Group V.

3. The non-elected claims (1-22 and 24-29) should be canceled in order to expedite the prosecution.

4. This application is in condition for allowance except for the following formal matters:

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

### ***Specification***

The specification has not been checked to the extent necessary to determine the presence of all minor errors. Applicant's cooperation is requested to correcting any additional errors of which applicant become aware in the specification. Examples of such errors are:

On page 3, line 5, “.” should be changed to ---.

On page 3, line 20, after “to the”, --low voltage level-- should be inserted.

On page 6, line 11, after “V<sub>DD</sub>”, --- should be inserted.

On page 6, line 13, after “V<sub>DD</sub>”, --- should be inserted.

On page 29, line 7, after “V<sub>DD</sub>”, --- should be inserted.

***Allowable Subject Matter***

5. Claim 23 is allowed.

6. The following is an examiner’s statement of reasons for allowance:

The prior art fails to disclose or make obvious a method for testing functionality of a group of active pixel sensors and a chain of circuitry connected to each active pixel sensor of the group of active pixel sensors comprising, in addition to the other recited steps of the claim, the steps of applying one of a group of voltage levels that vary incrementally from a first voltage level to charge a capacitance of a photo-conversion device of each active pixel sensor of the group of active pixel sensors to a first charging voltage level, and differentially comparing the first charging voltage level with a second charging voltage level to create a first difference voltage, whereby the first difference voltage indicates the functionality of each active pixel sensor of the group of active pixel sensors and the chain of circuitry connected to the active pixel sensor.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Art Unit: 2878

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sauer et al, Chou and Beiley are cited for disclosing an image sensor comprising an active pixel sensor and a sample and hold circuit.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Pyo whose telephone number is 703-308-4841. The examiner can normally be reached on Mon-Fri (with flexible hour), First Mon. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 703-308-4852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Kevin Pyo  
Primary Examiner  
Art Unit 2878

Pkk  
12/13/03